



**Computer Science Virtual Learning**

# **PLTW Computer Science Principles**

**April 30, 2020**

# **Lesson: April 30, 2020**

## **Security By Encryption**

### **Learning Target:**

**The goal of this lesson is for students to personally invest in maintaining online security and to improve their personal cybersecurity hygiene. Students focus on cybersecurity from the perspectives of the user, the software developer, businesses, the nation, and the citizen. In the team competition at the end of the lesson, students explore parallel strands in encryption and security. Encryption is used as a route to explore the efficiency of algorithms and how the time required for an algorithm to execute can depend on its input.**

# Introduction

**Why can't we depend on secret passwords? Why is time the anchor of cybersecurity?**

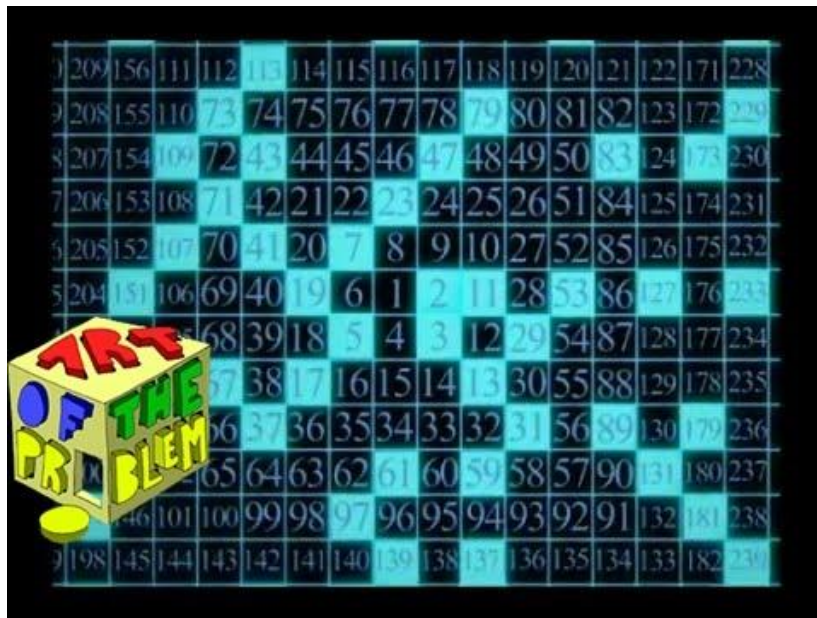
**Write your thoughts in your notebook and discuss your ideas with your family and friends.**

**Consider this Video about creating a secure password...How Secure are your Passwords?**



## Practice

In this activity, with will be revisiting [RSA Encryption](#).  
Watch this video for a deep dive in the subject:





## Practice: Security By Encryption

Click on this [link](#) to open and make a copy of the activity. Source files and presentation resources are hyperlinked into this document. You will be working with Repl.it to execute your Python programs. If you would like a review on creating a Python workspace in in Repl.it.click [here](#).



## Reflect: Security By Encryption

**Reflect on this activity in you notebook. What aspects and concepts are you struggling with?**

### **Tomorrow's Agenda:**

- **Time Complexity**
- **Conclude Security and Encryption**